

STORMS AND TORNADES.

The Agent of the Signal Bureau for Their Investigation Establishes Headquarters in Kansas City—The Information He Derives From the People.

Acting under the authority of the chief signal officer, in charge of the United States weather bureau at Washington, D. C., I have established my headquarters at Kansas City, Mo., a point admirably well fitted by the reason of the completeness of its mail, telegraph and railroad facilities, for the prosecution of my labors in the effort to carefully investigate the tornadoes of 1882 and study the general features of violent wind storms. I shall give my individual attention to the tornadoes of what may be termed the lower Missouri Valley, embracing the states of Kansas, Nebraska, Missouri, and Iowa. It is within this region that tornadoes occur with the greatest frequency, the most unexampled violence, the most marked regularity and with the most complete manifestation of their peculiar characteristics.

Here is an opportunity for a complete and satisfactory study of the phenomena of tornadoes, which is afforded in no other region of the United States. I hope this year to take an advanced step in the work and present such information to the public as will result in practical good to all concerned. Besides the work of investigating any particular storm, with a view to gain new and important truths, I desire to push the labor of ascertaining more definitely the conditions precedent to the formation of tornadoes in general, the phenomena and laws of cloud development, the velocity and power of the centripetal currents within the cloud vortex, the arrangement of suitable plans preparatory to an effort to warn communities in advance of the tornado, of conditions favorable to its formation, and, lastly, to prepare and disseminate such information as will direct people how to act in defense of their lives, and to a certain extent their property, during the approach and passage of the tornado cloud. To accomplish these results I need the hearty co-operation of all intelligent people throughout the lower Missouri valley. I want every one who can give me any facts concerning a tornado of the present or past, occurring either in the year 1882 or at any time during the past fifty years or more. Much can be done by the press of the lower Missouri to aid in this great work, and I trust that there will be no lack of active sympathy. I hope that through your columns you will succeed in so encouraging a belief in the importance and necessity of the work that your subscribers, contributors and readers will flood me with facts, facts, facts. I desire every one to become familiar, as far as it is possible, with the exact kind of data needed in the work now contemplated, and with a view to aid in the accomplishment of this object, the following questions and remarks are published, which embrace most, if not all, of the important points:

THE QUESTIONS

1. What day of the month, and at what time of the day did the tornado cloud pass? Take great care in giving the exact time. Perhaps you watched your clock or noticed the approach or passage of a railroad train.
2. Give the position of your house with respect to the nearest postoffice, indicating the same in miles or parts of miles or rods; state the distance in northing and easting, northing and westing, southing and easting, southing and westing, estimated along section and to township lines.
3. How far and in what direction is your house situated from the center of the path of destruction?
4. Give the direction and distance from your house to your various farm buildings, if possible drawing a plan of the same and indicating the points of the compass. This plan need only be a rough sketch.
5. Give the dimensions of your buildings and state the character of each as to whether they are log, frame, stone or brick, weak or strong.

6. In drawing a plan of your buildings indicate the position of the tornado's path with respect to each of them and the direction in which the tornado cloud moved.

7. State in detail and separately the damage to each building; what portion or portions were taken away or injured; how far and in what direction were they moved bodily; what portion of each was first struck by the wind, and how far and in what direction was the debris carried? Be very careful to give the exact position and peculiarities of building, which were not damaged although standing near those which were destroyed.

8. Give the direction, of the wind while the tornado cloud was approaching, while the tornado cloud was passing and after the tornado cloud passed.

9. Give the general atmospheric conditions of temperature, wind direction, humidity and clouds, for from ten to fifteen days previous to the occurrence of the tornado and from three to five days thereafter.

10. Was the day unusually warm and sultry? Give the maximum temperature, if possible, and state the hour at which it was observed, together with the direction of the wind and state of the sky existing at the time.

11. What had been about the average daily temperature, also the maximum and minimum, together with the accompanying directions of the wind, for eight or ten days previous to the occurrence of the tornado, and for three days succeeding its appearance?

12. Give the direction, in degrees, of the course pursued by the tornado cloud along its path of destruction in your locality, as for example: N 70° E; E 30° N, etc., etc.

13. Send any newspaper article concerning the storm which you may have, or can obtain without inconvenience.

14. Give name and address of any one in your state who is in the habit of keeping a meteorological record or who desires to keep one and would like instructions.

15. In all descriptions of the tornado's path; in giving any particular destruction in it, in detailing your experience while the tornado cloud was passing, be careful to state on which side of the center (to the north or to the south and how far) the damage occurred or you were situated while a witness of the scene.

16. Do you know of any one who made observations on the presence of ozone in the atmosphere on the day of the storm? If so, send me their address or give the result of the observations.

17. Do you know of any one who made observations with the galvanometer or compass concerning the deflection of the needle during the day of the storm, especially while the tornado cloud was passing a given point? If so, send me their address or give the result of the observations.

18. If you recall the occurrence in times past of any violent hail storm in your state, give the place, year, month, day of month, hour of day, direction of the storm, maximum and minimum width of path in rods or miles, size and shape of hail stones and a narration of the destructive effects.

19. If you recall the occurrence, in times past, of any other tornado in your state, give year, month, day of month, hour of day, the direction of the course of the path of destruction as pursued by the tornado cloud, its length in miles, average width of destructive path in yards or rods, maximum width, minimum width, and, if possible, the hour of beginning and hour of disappearing of the tornado cloud.

My report upon the tornadoes of 1882 will be published in book form and can be obtained free of cost by applying through your congressman, to W. B. Hazen, brigadier and brevet major general, chief signal officer, U. S. A., Washington, D. C. My report upon the tornadoes of 1879, now ready in book form, as also another publication, "Facts about Tornadoes," the letter of which contains practical rules showing how to avoid the violence of tornadoes,

can be obtained in the same manner. Please address,

JOHN P. FINLEY,
Sergeant Signal Corps, U. S. A.,
Kansas City, Mo.,
Agent United States weather bureau,
Washington, under the direction of
W. B. HAZEN,
Brig. and Bvt. Maj. Gen., Chief signal
officer, U. S. A.

Sealing.

From "Seals and Sealing in the North Atlantic," by Ernest Ingersoll, in St. Nicholas for June.

The seals of the North Atlantic are not hunted for their fur, as are their Alaska cousins, but chiefly for their oil, and secondarily for their skins. It is an industry which profitably employs hundreds of ships and thousands of seamen, and it receives the name of "sealing."

You may know that near the end of winter enormous herds, chiefly of the harp seals, come down and congregate upon the floating fields of ice eastward of Newfoundland, where the young are born in March. These are the place and season of the largest fishery, but the locality is never fixed nor certain; the fields, approached simultaneously by sailing fleets and steamers from Newfoundland, Nova Scotia, Scotland, England, France, Germany, and Norway, must be sought for every year as though for the first time. This is in the icy, tempestuous North Atlantic, at the most stormy period of the year. Dreadful gales may drive the ships anywhere but where they seek to go, bergs may be hurled against them, the ice may jam them between its ponderous edges and crush the doubly braced hulls into splinters, or cleanly cut away parts of the bottom, and leave the vessel's to sink and the men to save themselves as best they may upon broken and drifting ice. Often a field of thin "bay-ice" will lie right in the path. Then the ship dashes into it as far as its power can force it. When it sticks, the crew leap overboard, chop and break the field into cakes which are shoved under the floe or hauled out on top; or, if it is too thick to be broken, saws are brought out, and a canal is slowly made for the ship's progress. This is a time of great desire for haste, and you may well believe that every man works with all his might.

Well, when all this toil and danger are passed,—sometimes greatly prolonged, and in the midst of a frozen sea and the most violent storms,—and the ship has the good luck to sight a herd, then begins for the crew of hardy sailors a season of about the most arduous labor that one can imagine.

If the weather permit, the vessel is run into the ice, and moored there; if not, it sails back and forth in open spaces, managed by the captain and one or two others, while the remainder of the crew, sometimes sixty or seventy, or even more in number, get into boats and row swiftly to the floe. The young seals lie scattered about here and there, basking in the sun or sheltered under the lee of a hummock, and they lie so thickly that half a dozen will often be seen in a space twenty yards square. They can not get away, or at most can only flounder about, and their plaintive bleatings and white coats might almost be those of lambs. The old seals are frightened away by the approach of the sailors, and never show fight; and the youngsters are easily killed; so the men do not take guns, but only clubs, with which they strike the poor little fellows a single blow on the head, usually killing them at once.

Having struck down all they see within a short distance, the small squad of men who work together then quickly skin, or (as they call it) "sculp" them, with a broad clasp knife, cutting clear through the thick layer of fat which lies underneath the hide, and so leaving a surprisingly small carcass behind. Bundles are then made of from three to seven "pelts" and each man drags a bundle toward the boat. This is sometimes miles distant, the ice is rough and broken, he must leap cracks, trust himself to isolated cakes, and often he falls into the freezing water, or loses his way in a sudden squall of snow. It is limb cracking and life

risking work, and, to accomplish it successfully, a man must school his muscles to endurance, his nerves to peril, and his heart to bitter cruelty;—but every pelt is worth a dollar!

By night, after a "seal-meadow" has been attacked, the decks of the vessel are hidden under a deep layer of fat, slippery pelts. After these have lain long enough to get cool, they are stowed away in the hold in pairs, each pair having the hair outward. The hold is divided by stout partitions into compartments, or "pounds," in order to prevent the cargo from moving about and so rubbing the fat into oil, which would speedily fill every part of the hold and the cabins, spoiling all the provisions. A vessel once had to be abandoned from this accident, because it had not been "pounded." The European ships, however, generally separate the fat at once and stow it in casks.

Feed the Calves Well.

The Western Homestead.

Good feeding is always profitable, and never more profitable than when bestowed upon young animals. The younger the animal the less is the cost per pound for the increase of flesh obtained. A given amount of food will produce more pounds of flesh when fed to a calf three weeks old than one three months old. In an experiment in feeding several calves it was found that during the first week of feeding eleven pounds of milk were required to produce one pound of increase; the second week, twelve pounds; the third week, thirteen pounds; the sixth week, fifteen pounds; at the ninth week, seventeen pounds, or a third more than the first week. The wise farmer will readily see the importance of generous feeding while the animal is young. The less cost of increasing weight is not the only advantage derivable from generous feeding while young. If the young animal is furnished with so scanty a supply of food that his growth is checked and he falls out of condition, he is permanently injured. It is seldom that he can by subsequent good feeding be brought to as good a condition as he would have attained if the feed had been good all the time. An experienced Irish farmer says: "As a breeder you must be careful not to lose the calf-flesh. If you do so by starving the animal at any time of his growth you lose the cream, the covering of flesh so much admired by all retail butchers. Where do all the scraggy, bad-fleshed beasts come from that we see in our markets, and what is the cause of their scragginess? It is because they have been stinted and starved of their growth. If the calf-flesh is once lost it can never be regained." Those who wish to have thrifty, fine-looking animals should feed well while they are calves.

Preserving Iron.

A new process for preserving iron consists in treating the casting with diluted hydrochloric acid, which dissolves a little of the metal and leaves a skin of homogeneous graphite holding well to the iron. The article is then washed in a receiver with hot or cold water, or cooked in steam, so as to remove completely the chloride of iron that has been formed. Finally, the piece is allowed to dry in the emptied receiver, and a solution of caoutchouc, gutta percha or gum rosin in essence of petroleum is injected, and the essence afterward evaporating, leaves a hard and solid enamel on the surface of the iron-work. Another plan is to keep the chloride of iron on the metal instead of washing it off, and to plunge the piece into a bath of silicate and borate of soda. Thus is formed a silico-borate of iron, very hard and brilliant, which fills the pores of the metal skin. As for the chlorine disengaged, it combines with the soda to form chloride of sodium, which remains in the pickle.

It is popularly supposed that the bite of a tarantula is cured by music. Sheriff Gabriel, of Pinal county, Arizona, had an opportunity to test this popular belief, and found it illusory.